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Claims

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1. A wafer management system, comprising: at least a first stationary wafer storage system, said first  
5 stationary wafer storage system having a first buffer for storing a plurality of wafers, a first load-and-unload station for transferring wafers between said first buffer and first intra-bay pods assigned to a first bay, and a second load-and-unload station for  
10 transferring wafers between said first buffer and further pods.
  2. The wafer management system according to claim 1, further comprising at least a second stationary wafer storage system, said second wafer storage system having a second buffer for storing a further plurality of wafers, a third load-and-unload station for transferring wafers between said second buffer and second intra-bay pods assigned to a second bay, and a  
15 fourth load-and-unload station for transferring wafers between said second buffer and said further pods.  
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  3. The wafer management system according to claim 1, wherein at least one of said first load-and-unload station and said second load-and-unload station comprises means for labeling said wafers with information, said information concerning at least one or more of the following fields: wafer identification, lot identification, place of storage in said first  
25 buffer, and processing status.  
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4. The wafer management system according to claim 1,  
wherein at least one of said first load-and-unload  
station and said second load-and-unload station  
comprises means for reading information provided on  
said wafers, said information concerning at least one  
or more of the following fields: wafer identification,  
lot identification, place of storage in said first  
buffer, and processing status.

10 5. The wafer management system according to claim 1,  
wherein at least one of said first load-and-unload  
station and said second load-and-unload station  
comprises means for reading information provided on  
said wafers and means for labeling said wafers with  
information, said information concerning at least one  
or more of the following fields: wafer identification,  
lot identification, place of storage in said first  
buffer, processing status.

20 6. The wafer management system according to claim 1,  
wherein said wafers are stored in a laminar gas flow  
within said first buffer.

25 7. The wafer management system according to claim 1,  
wherein said first buffer comprises slots for storing  
said wafers, and means for transferring said wafers  
between said first load-and-unload station and said  
slots or between said second load and unload station  
and said slots.

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8. A method for managing wafers, said method comprising  
the following steps:

- a) transferring wafers into a first stationary wafer  
storage system having a first buffer for storing a  
plurality of wafers, and  
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b) transferring selected wafers from said first buffer  
to first intra-bay pods assigned to a first bay via  
a first load-and-unload station of said first  
stationary wafer storage system, or to inter-bay  
pods via a second load-and-unload station of said  
first stationary wafer storage system.

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9. The method according to claim 8, further comprising  
the step of transferring wafers directly from intra-  
bay pods to inter-bay pods or from inter-bay pods to  
intra-bay pods.  
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10. The method according to claim 8, wherein step a)  
further comprises labeling at least some of said  
wafers with information or reading information from at  
least some of said wafers, said information concerning  
at least one or more of the following fields: wafer  
identification, lot identification, place of storage  
in said first buffer, and processing status.  
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11. The method according to claim 8, wherein step b)  
further comprises: labeling at least some of said  
wafers with information or reading information from at  
least some of said wafers, said information concerning  
5 at least one or more of the following fields: wafer  
identification, lot identification, place of storage  
in said first buffer, and processing status.

10 12. The method according to claim 8, wherein step b)  
further comprises: transporting said first intra-bay  
pods to at least one processing tool assigned to said  
first bay.

15 13. The method according to claim 8, further comprising  
the step of downloading instructions from a storage  
system wafer management software to a tool directing  
tool to use a desired recipe.

20 14. The method according to claim 8, wherein, between  
performing said steps a) and b), said wafers are  
stored in a laminar gas flow within said first buffer.

25 15. The method according to claim 8, wherein, between  
performing said steps a) and b), said wafers are  
stored in slots provided in said first buffer.

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16. A method for transporting wafers from a first processing tool assigned to a first bay to a second processing tool assigned to a second bay, comprising the following steps:

- 5        - transferring said wafers from said first processing tool to at least one first intra-bay pod;
- 10      - transporting said at least one intra-bay pod to a first stationary storage system comprising a first buffer for storing a plurality of wafers out of pods;
- 15      - transferring said wafers into said first buffer via a first load-and-unload station;
- 20      - transferring said wafers from said first buffer to at least one pod;
- 25      - transporting said at least one pod to a second stationary storage system comprising a second buffer for storing a plurality of wafers out of pods;
- 30      - transferring said wafers from said at least one pod into said second buffer;
- 35      - transferring said wafers from said second buffer to at least one second intra-bay pod;
- 40      - transporting said at least one second intra-bay pod to said second processing tool; and
- 45      - transferring said wafers from said at least one second intra-bay pod to said second processing tool.

17. The method according to claim 16, further comprising the step of transferring said wafers from said first stationary storage system to said second stationary storage system where the first stationary storage system reaches capacity.

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